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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/731,650 | 12/09/2003 | Danis Sangois | LUISE.P001 | 5004 |
| 7590 | 07/29/2004 | | EXAMINER | |
| LACKENBACH SIEGEL LLP One Chase Road Scarsdale, NY 10583 | | | KOYAMA, KUMIKO C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2876 | |

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

KJ

| | | | |
|------------------------------|------------------|----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/731,650 | SANGOIS, DANIS | |
| | Examiner | Art Unit | |
| | Kumiko C. Koyama | 2876 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 09 December 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____. |
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DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it includes improper language, such as “comprising.” Correction is required. See MPEP § 608.01(b).

Claim Objections

2. Claims 1-6 are objected to because of the following informalities:

Re claim 1: The term “FR4” is vague and indefinite because it is unclear what contains in the limitation “FR4” in the Applicant’s claim. The examiner respectfully requests the Applicant to clearly define the material, structure or method that contains in the limitation “FR4.”

Re claims 2 and 6: The word “can” is indefinite because it is unclear whether the limitation is a part of the claim or not. The examiner respectfully requests the Applicant to change “can be” to --is--.

Re claim 5: “Sheets” is indefinite because it is unclear whether the Applicant is pointing to the sole sheet of FR4 or the copper sheets. For examination purposes, the examiner will interpret the “sheets” as the copper sheets.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Doggett et al (US 5,148,595).

Doggett discloses a print head that is formed on a substrate 60, which is conventional glass epoxy printed circuit board material, such as FR4 (col 8, lines 15-20). The print head includes bonding pads 54A, 54B and traces 53A, 53B (col 12, lines 15-17). The bonding pads are electroplated metal conductive elements that conduct electricity between the copper traces 53A and the IC 51A (Fig. 2, col 11, lines 62-66). The traces are electrically conductive traces formed by copper (col 8, lines 20-25) and joins the bonding pads and the end of the substrate, which a terminal (Fig. 2). A milling machine is used to assemble the head (col 27, lines 24-27). Doggett also teaches that the driver circuits and the associated logic circuitry that are formed as parts of integrated circuit die mounted on the styli substrate (col 5, lines 40-45). Doggett also teaches a stylus 21, which is an electrode 10 shaped like hole, as shown in Fig. 1b, and the stylus connected to an IC chip, which is a control circuit (col 1, lines 20-25 and Fig. 1b).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doggett in view of Akutsu et al (US 4,897,669). The teachings of Doggett have been discussed above.

Doggett fails to teach a material having an elasticity index enough to achieve pressure on the conductive elements.

Akutsu discloses that in the case where electric pulses are sent from the needle electrodes, the contacting pressure can be kept uniform because the anisotropic electrically conductive layer has moderate elasticity (col 23, lines 43-45).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Akutsu to the teachings of Doggett in order to obtain a direct and consistent contact for electrical connection, and thereby achieving a reliable printer head that operates according to the controller's commands.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hurst et al., U.S. Patent No. 6,124,873, discloses an electrostatic writing head having integral conductive pads.

Hurst et al., U.S. Patent No. 5,815,189, discloses an electrostatic writing head having a head member of multiple joined sections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kumiko C. Koyama
Kumiko C. Koyama
July 26, 2004


KARL D. FRECH
PRIMARY EXAMINER